Simplification and Saving

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February 2, 2012

Abstract: The daunting complexity of important financial decisions can lead to procrastination. We evaluate a low-cost intervention that substantially simplifies the retirement savings plan participation decision. Individuals received an opportunity to enroll in a retirement savings plan at a pre-selected contribution rate and asset allocation, allowing them to collapse a multidimensional problem into a binary choice between the status quo and the pre-selected alternative. The intervention increases plan enrollment rates by 10 to 20 percentage points. We find that a similar intervention can be used to increase contribution rates among employees who are already participating in a savings plan.

We thank Aon Hewitt for their help in providing the data. We are particularly grateful to Pam Hess and Yan Xu at Aon Hewitt, to Greg Stoner and other employees at the two companies studied in the paper, and to Lori Lucas. We thank Andrew Chong, Hongyi Li, Brendan Price, and Dmitry Taubinsky for excellent research assistance. We acknowledge financial support from the National Institute on Aging (grant R01-AG021650 and T32-AG00186). Beshears acknowledges financial support from a National Science Foundation Graduate Research Fellowship. The opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of NIA, the Federal Government, or the NBER. Laibson acknowledges financial support from the Sloan Foundation.

1. Introduction

Many household financial decisions—for example, choosing a savings rate or asset allocation, determining the optimal amount of life insurance, deciding when and how to refinance a mortgage, or dividing assets among beneficiaries in a will—are complicated. One potential consequence of this complexity is that individuals put off confronting these decisions. Madrian and Shea (2001) and Iyengar, Huberman, and Jiang (2004) argue that the complexity of the retirement savings decision discourages employees from timely enrollment in employer-sponsored savings plans, even when they prefer participation to non-participation. Unfortunately, modest delays in savings plan enrollment each time a worker switches employers can lead to substantial reductions in long-run wealth accumulation.

Choi, Laibson, and Madrian (2009) (henceforth CLM) evaluate an intervention called Quick Enrollment that is designed to simplify the retirement savings problem. Quick Enrollment gives employees a mechanism to enroll in their employer's savings plan at an asset allocation and contribution rate pre-selected by the employer. This allows individuals to psychologically collapse a complex, multidimensional savings and investment problem into a simpler binary choice: remain at their status quo, or accept the pre-selected alternative.[1] If workers believe that their employer has been benign and judicious in choosing the pre-select, then the pre-select can provide guidance on what a reasonable contribution rate and asset allocation might be. In addition, the Quick Enrollment mechanism may be a more convenient way to enroll in the savings plan than the standard phone or Internet channels. CLM find that Quick Enrollment increased savings plan enrollment at two firms by 10 to 20 percentage points relative to a standard opt-in enrollment regime.

In the current paper, we extend the analysis of CLM in four ways. First, we show that providing repeated opportunities to use Quick Enrollment substantially increases the effectiveness of this enrollment mechanism. In an employee population that received Quick Enrollment forms in the mail, each annual mailing caused about 10% of the still-unenrolled recipients to join the savings plan. The result was a cumulative enrollment increase after three mailings of 21 percentage points relative to baseline, a 105% increase. Second, we show that Quick Enrollment is just as effective at raising enrollment when its pre-selected contribution rate

[1] Heterogeneity of optima in the population can easily be accommodated by offering more than one pre-select in the Quick Enrollment menu. Of course, offering too many pre-selects will reintroduce the complexity that Quick Enrollment is designed to attenuate.

is 4% of salary, rather than the lower 2 or 3% pre-selected contribution rates evaluated by CLM. Third, we evaluate a complementary intervention called Easy Escalation, which is similar to Quick Enrollment but allows already-participating employees to increase their contribution rate to a pre-selected level—6% of salary at the company we study. We find that mailing an Easy Escalation form to employees with low contribution rates causes about 15% of the recipients to raise their contribution rate to the pre-select. Finally, CLM follow employees for a maximum of 11 months after their exposure to Quick Enrollment. We assess the effect of Quick Enrollment up to 54 months after its implementation. We find that the participation increases produced by Quick Enrollment are durable. Consistent with previous research on automatic enrollment (Choi et al., 2002, 2004), we also find that employees who join the savings plan via Quick Enrollment often remain at the pre-selects for years.

These results highlight the potential salutary effect of making a savings vehicle simpler and add to a growing body of evidence on the impact of simplification on economic outcomes. Simplification of the information gathering process has been shown to affect parents' choices of schools for their children (Hastings and Weinstein, 2008), senior citizens' Medicare Part D plan choices (Kling et al., 2008), and investors' mutual fund choices (Choi, Laibson, and Madrian, 2010). Simplifying the college financial aid application procedure increases both applications for financial aid and subsequent college attendance (Bettinger et al., 2009).

Quick Enrollment and Easy Escalation achieve their simplification without eliminating any of the savings plan elections previously available to employees, although the pre-selected elections are made salient. Because Quick Enrollment and Easy Escalation seek to benevolently guide choices while not restricting choice, they are forms of libertarian paternalism (Sunstein and Thaler, 2003) like automatic enrollment (Madrian and Shea, 2001; Choi et al., 2002, 2004), automatic contribution escalation (Thaler and Benartzi, 2004), and active decisions (Carroll et al., 2009). Quick Enrollment and Easy Escalation can easily be integrated with these other interventions. For example, a company that automatically enrolls employees in its savings plan can also distribute an Easy Escalation form that offers a limited number of pre-selected contribution rates to which an employee can move from the default. Reducing the costs—both

cognitive and transactional—of opting out of the default can reduce the welfare losses from being defaulted into a suboptimal savings and investment choice.[2]

The paper proceeds as follows. Section 2 describes the Quick Enrollment and Easy Escalation implementations at the two firms we study. Section 3 describes the data that we use to analyze the effects of the interventions. Section 4 presents the results of our empirical analysis at the first company, and Section 5 presents the results from the second company. Section 6 concludes.

2. Quick Enrollment and Easy Escalation Implementations

2.1. Quick Enrollment at Company A

The first Quick Enrollment implementation we study was at a large health services company—hereafter referred to as Company A—with approximately 40,000 employees. Virtually all Company A employees in our data were immediately eligible for their employer-sponsored savings plan and could make both before-tax and after-tax contributions up to 100% of pay, subject to U.S. Internal Revenue Service annual dollar contribution limits. Most employees were also eligible for a 50% matching contribution from the company on the first 4% or 6% of pay (depending on employee group) contributed to the plan.

Panel A of Table 1 summarizes the timeline of Quick Enrollment at Company A. Prior to July 2003, the company used a standard opt-in enrollment process: employees were not enrolled in the savings plan unless they made an affirmative election. When they did choose to enroll, they had to also (1) select a before-tax and an after-tax contribution rate whose sum was between 0 and 100% of salary, and (2) specify how to allocate their contributions across the eleven investment options offered in the plan.

In July 2003, Company A adopted Quick Enrollment on a trial basis in the form of a card distributed to new employees attending orientation. Employees who checked the box on the card and returned it were enrolled in the savings plan at a before-tax contribution rate of 2% of salary and an after-tax contribution rate of 0% of salary, and their contributions were invested in a pre-selected asset allocation that was evenly split between a money market fund and a balanced fund.

[2] Even defaults that are appropriate for the typical member of a population will generate welfare losses if population optima are heterogeneous and defaults are sticky. Carroll et al. (2009) provide a theoretical analysis of how heterogeneity affects the optimal default regime. They find that high heterogeneity can lead to the optimal default being one that is deliberately *inappropriate* for the median individual. High heterogeneity may alternatively lead to active decisions being optimal instead of a default if procrastination is strong enough.

Returning the Quick Enrollment card was not mandatory. Although the cards did tell employees that if they wished to use Quick Enrollment they had to submit the card within two weeks of orientation, the deadline was not actually binding, as late submissions were still processed.[3] The company reports that many of the Quick Enrollment cards were handed in during orientation rather than taken home and mailed in. Employees could also enroll on their own at any contribution rate and asset allocation (subject to plan limitations) using the standard phone or Internet channels throughout this time. In October and November 2003, the company distributed Quick Enrollment cards at the annual benefits fair, which was open to all employees—not just new hires.

The Quick Enrollment trial ended in December 2003, but in February 2004, Company A adopted Quick Enrollment as a permanent feature of its new employee orientation. In March 2006, the company changed the Quick Enrollment pre-selects to a before-tax contribution rate of 4% of salary, an after-tax contribution rate of 0% of salary, and an asset allocation invested 100% in an age-appropriate target date retirement fund. This change coincided with the introduction of target date retirement funds to the plan investment menu.

Company A's second Quick Enrollment implementation took place from mid-June 2004 through mid-October 2004 for seasoned employees (i.e., those who were not new hires) not enrolled in the savings plan. This implementation occurred in conjunction with the adoption of a new Web-based benefits management system for all employees. As part of the transition to this new system, the company had employees meet individually with an outside vendor's representatives to help them register on the new system. These meetings were not designed to be financial planning sessions, but representatives answered questions about company benefits—in particular, about the firm's life insurance products and savings plan. Non-enrolled employees received the opportunity to enroll in the savings plan using a Web-based Quick Enrollment interface.[4] This implementation also offered an asset allocation pre-select split evenly between a money market fund and a balanced fund, but enrolling employees had to choose a pre-tax contribution rate without the guidance of a contribution rate pre-select. Seasoned employees did not have the option to use Quick Enrollment, whether Web- or paper-based, after the meeting.

[3] The deadline on the card was a specific date that changed according to when the orientation was held. We do not know whether employees knew that the deadline was not binding.

[4] Because exposure to the Web-based Quick Enrollment was always within the context of the meeting, we cannot identify the effect of exposure to Web-based Quick Enrollment separately from the effect of meeting with a representative.

2.2. Quick Enrollment and Easy Escalation at Company B

The third Quick Enrollment implementation that we study is at Company B, a manufacturing firm with approximately 20,000 employees. Almost all employees were immediately eligible to participate in the savings plan and could contribute any combination of before-tax and after-tax dollars up to 25% of pay, subject to the Internal Revenue Service dollar contribution limits. The first 6% of pay contributed to the plan was matched by the company at a rate that varied from 55% to 125%, depending on company profitability. Prior to 2004, employees could invest their own contributions in nine investment options, including employer stock. The investment menu grew to encompass twelve options in 2004. The match was invested in employer stock and could not be fully diversified until age 55. Company B operated a standard opt-in enrollment system until 2003.

Panel B of Table 1 provides a summary timeline of Quick Enrollment and Easy Escalation at Company B. Quick Enrollment was first implemented as a mailing in the latter half of January 2003 to all employees at the firm who were not enrolled in the savings plan. Employees who checked the form's box and returned the card were enrolled in the plan at a 3% before-tax contribution rate and a 0% after-tax contribution rate, with all contributions invested in a money market fund. Although Company B employees were given a two-week deadline for returning the Quick Enrollment card, as at Company A, this deadline was not binding in practice. Cards returned after the deadline were held and processed in May 2003. A second Quick Enrollment mailing was sent to non-enrolled employees in January 2004 with the same contribution rate and asset allocation pre-selects as in 2003. A third Quick Enrollment mailing to those not enrolled occurred in February 2005, offering the same contribution rate pre-select but an asset allocation pre-select entirely invested in a lifestyle fund rather than a money market fund. In January 2004 and February 2005, Company B also sent Easy Escalation forms to already-enrolled employees whose before-tax plus after-tax contribution rate was below the 6% match threshold. These forms, similar to the Quick Enrollment forms, allowed employees to check a box to increase their total contribution rate to the 6% match threshold while keeping the asset allocation they already had in effect. Like in Company A, throughout this time, employees could use the standard phone or Internet channels to enroll in the savings plan at any contribution

rate and asset allocation (subject to plan limitations) and change their current contribution rate or asset allocation.

3. Data description

The data we use to analyze the impact of Quick Enrollment and Easy Escalation come from Aon Hewitt, a large U.S. benefits administration and consulting firm. The data are repeated year-end cross-sections of all employees at Company A from year-end 2002 through year-end 2008, and all employees at Company B from year-end 2002 to year-end 2006. These cross-sections contain data on savings plan enrollment status, initial enrollment date, the cumulative amount contributed during the calendar year to each investment option, the cumulative net transfers into or out of each investment option during the calendar year, and year-end balances in each investment option. We also have a monthly history of contribution rates from January 2002 to December 2008 for Company A, and from August 2002 to December 2006 for Company B. Note that our data allow us to see contribution rates at a much higher frequency than asset allocations.

Unfortunately, we know neither which nor how many Company A employees received Quick Enrollment forms at new employee orientation. Attendance at orientation was not strictly enforced, so many new hires never attended orientation and thus never received a Quick Enrollment form. We will estimate the average impact of being in a new-hire cohort that, by virtue of its hire date, *potentially* could have received Quick Enrollment forms at Company A's orientation. This will *underestimate* the true Quick Enrollment treatment effect because some of this population was never treated.

Our data also do not tell us exactly which employees used the Quick Enrollment and Easy Escalation forms at either Company A or Company B. However, we will see that in the absence of Quick Enrollment or Easy Escalation, very few people chose the pre-selected contribution rates (Quick Enrollment and Easy Escalation) and asset allocations (Quick Enrollment) offered on the forms. We can therefore infer that almost everybody who chose those pre-selects upon being introduced to Quick Enrollment or Easy Escalation did so because of these interventions.

4. Impact of Quick Enrollment at Company A

We begin by discussing the impact Company A's *second* Quick Enrollment implementation had on savings plan participation. Seeing these results first will aid in understanding the subsequent analysis of the first Quick Enrollment implementation's impact on enrollment. We will then discuss the effect both implementations had on savings plan contribution rate and asset allocation choices.[5]

4.1. Impact of the second Quick Enrollment implementation on savings plan participation

Figure 1 shows the aggregate participation rate—defined as the percent of employees currently contributing a positive amount to the savings plan—plotted against calendar time for Company A. The sample is all employees who were continuously employed at Company A and eligible to participate in its savings plan from January 1, 2002 through December 31, 2005. Note that this sample excludes employees who received Quick Enrollment forms at new employee orientation, so the impact of that Quick Enrollment implementation does not appear in Figure 1. The shaded portion of Figure 1 corresponds to the period during which Web-based Quick Enrollment was offered to seasoned non-enrolled employees.

The participation rate increased dramatically during the mid-June 2004 to mid-October 2004 rollout of Web-based Quick Enrollment and was close to flat outside that period. During the 28-month period from the end of January 2002 to the end of May 2004, the savings plan participation rate rose only 8.5 percentage points, or 0.3 percentage points per month. In contrast, during the five-month period from the end of May 2004 to the end of October 2004, the participation rate increased 10.4 percentage points, or 2.1 percentage points per month, from 66% to 76%. Fully 30% of non-participating employees began participating in the savings plan during this period. The bulk of the increase occurred by the end of August 2004; participation only increased by 1.3 percentage points during September and October 2004. This likely indicates that most of the individual employee meetings at which Quick Enrollment was offered were completed prior to September. The participation rate was again stable after this Quick Enrollment implementation ended, growing only 0.2 percentage points during the thirteen-month period from the end of November 2004 to the end of December 2005, or 0.02 percentage points per month. Importantly, the participation increase achieved during the Quick Enrollment window

[5] See CLM for an analysis of how Quick Enrollment's impact varied by employee characteristics.

shows no sign of subsequent reversal. Running a time-series regression of the monthly participation rate change from February 2002 to December 2005 on a dummy variable for the month being in the June 2004 to October 2004 window yields a coefficient of 1.9% that is significant at the 1% level.

4.2. Impact of the first Quick Enrollment implementation on savings plan enrollment

To assess the impact of distributing Quick Enrollment forms at new employee orientation on the savings plan enrollment of new hires at Company A, we compare employees hired from February through June of 2002 or 2003 to employees hired from February through June of 2004 or 2005, and to employees hired from March through June of 2006.[6] Hires during 2002 and 2003 serve as the control groups, indicating what the enrollment path among new hires is without Quick Enrollment until these early cohorts are eventually exposed to the second Quick Enrollment implementation discussed above. Hires in 2004 and 2005 who attended orientation were exposed to Quick Enrollment with a pre-select of a 2% before-tax contribution rate and an asset allocation split equally between a money market fund and a balanced fund. Hires from March 2006 onwards who attended orientation had a Quick Enrollment pre-select of a 4% before-tax contribution rate and an asset allocation directed entirely to a target date retirement fund. An employee is considered enrolled in the plan if she has signed up for the plan, even if she is not currently contributing a positive amount.[7] We will see in Section 4.5 that employees rarely stop contributing once enrolled.

By comparing cohorts hired in the same months across years, we control for seasonality in savings plan enrollment. We end our hire window in June because Quick Enrollment was

[6] CLM analyze the impact of Quick Enrollment distribution at employee orientation only among employees working at the company's main location. Orientation sessions at Company A occurred only at the main location, so employees working at the main location were the most likely to attend orientation and receive Quick Enrollment forms. In our analysis here we include the entire sample of new hires, regardless of work location, for two reasons. First, we wish to examine outcomes for the 2005 and 2006 hire cohorts, but we do not have employee location data beyond 2004. Analyzing enrollment for new hires at all locations allows us to maintain comparability between the earlier and later cohorts. Second, employees at other locations were free to come to the orientation sessions, so some of them did receive the Quick Enrollment forms as new hires.

[7] We consider enrollment status instead of participation status (i.e. whether the employee is currently contributing) for this analysis because we observe contribution rates only at each month-end. Therefore, we do not observe contribution rates at the same tenure levels for somebody hired early in a month as for somebody hired later in a month. In contrast, we know the exact day on which enrollment occurred, so we can compute enrollment rates at equivalent tenure levels regardless of when in a month an employee was hired. The mismatch in the timing of the contribution rate data is more important at low tenure levels; it is less of a concern in our analysis of contribution rate persistence in Section 4.5, which examines outcomes at longer tenure levels.

introduced on a trial basis in July 2003, so the June 2003 hire cohort is the last cohort not potentially exposed to Quick Enrollment at orientation. We begin our hire window in February for the 2002 to 2005 cohorts because Quick Enrollment was adopted on a permanent basis in February 2004 after a one-month hiatus. We do not analyze the new hires from the second half of 2003, who were potentially given Quick Enrollment at orientation, because the annual company-sponsored benefits fair held in October and November 2003 (at which additional Quick Enrollment forms were distributed, making it different from previous years' benefits fairs) creates a potentially confounding effect on savings plan enrollment early in their tenure.[8] The Quick Enrollment pre-select change occurred in March 2006, which is why we begin the hire window in March for the 2006 hire cohorts.

Table 2 shows the characteristics of employees in each year's hire cohorts. Across all years, the average age is about 34 years and the percent male is about 27%. Average and median nominal salary rise over time at a 5.2% and 6.5% annualized rate, respectively, probably reflecting health care worker wage inflation.[9] There are approximately 2,500 employees in each cohort.[10] Overall, it seems that the cohorts are substantially comparable across years.

Figure 2 shows the savings plan enrollment rate as a function of months since hire for each year's hire cohorts. New-hire enrollment rates are similar and extremely low during the first year of tenure for employees hired from February to June in 2002 and 2003 (the thin gray and thin black lines): about 7% one month after hire and 22% after twelve months. Enrollment rates under Quick Enrollment (the thick gray, thick black, and dotted black lines) are dramatically higher and do not differ much by hire year, even after the pre-selected contribution rate doubled from 2% to 4% in 2006. The one-month enrollment rate of 18% and the twelve-month enrollment rate of 42% are 12 and 20 percentage point increases, respectively, over the enrollment rates of the 2002 and 2003 cohorts at similar tenure levels. Both of these differences are significant at the 1% level.[11] If we additionally control for age, gender, and log income, the

[8] In addition, the company initially used a slightly different version of the Quick Enrollment form in 2003 than the one eventually adopted. See CLM for details.

[9] The Bureau of Labor Statistics reports that U.S. hospital employee wages and salaries rose at a 3.7% annualized rate from 2002 to 2006. The BLS sample includes all hospital employees, whereas the Table 2 sample includes only new hires, so the two figures are not exactly comparable.

[10] CLM report much smaller sample sizes in their Table 3. The difference arises because the CLM sample is restricted to employees who are at the main location and whose tenure extends through September 2004.

[11] To test the significance of the participation differences between the pre- and post-Quick Enrollment cohorts, we use the data underlying Figure 2 to run linear probability regressions of individual enrollment at tenure month 1 or 12 on a Quick Enrollment cohort dummy.

Quick Enrollment effects are 9% and 17% at one and twelve months, respectively, and remain significant at the 1% level (not shown in tables).

Any effect from the second Quick Enrollment implementation would show up between the first and ninth months after hire for the 2004 new-hire cohorts (the first to receive Quick Enrollment during orientation), whereas the second Quick Enrollment implementation would not affect the 2005 and 2006 new-hire cohorts at all. Figure 2 shows that at the end of nine months after hire, the 2004 cohorts' enrollment rate is only 3 percentage points higher than the 2005 and 2006 cohorts' enrollment rate. Thus, the second Quick Enrollment implementation had only a small effect on the 2004 cohorts' enrollment behavior, perhaps because they had been very recently exposed to Quick Enrollment during orientation.

In contrast, the second Quick Enrollment implementation had a large effect on the new-hire cohorts that did not receive Quick Enrollment during orientation. Figure 2 shows that in the 2003 cohorts, enrollment rates increased from 21% to 46% between the thirteenth and 21st months after hire, which corresponds to the window in which these cohorts experienced the second Quick Enrollment implementation. This 25 percentage point increase is 15 percentage points greater than the increase the 2002 cohorts experienced between their thirteenth and 21st months after hire. The 2002 cohorts experienced their own 26 percentage point enrollment increase when they encountered the second Quick Enrollment implementation between their 25th and 33rd months after hire.

Figure 2 also shows that the immediate enrollment gains of the first Quick Enrollment implementation do not appear to come at the expense of longer-run enrollment growth. Our best counterfactual comes from the 2002 hire cohorts, whose enrollment rate grew nearly linearly at 1.2 percentage points per month from the end of their ninth month after hire to the end of their 24th month after hire, after which they were exposed to the second Quick Enrollment implementation. The three Quick Enrollment hire cohort years experienced nearly linear 1.0 (2004 cohort), 1.2 (2005 cohort), and 1.3 (2006 cohort) percentage point per month enrollment growth from the end of their ninth month after hire to the end of their 24th month after hire. The fact that Quick Enrollment does not appear to cannibalize longer-run enrollment growth rates may indicate that Quick Enrollment accelerates the enrollment of employees who would otherwise not join the plan for many years.

4.3. Impact of Quick Enrollment on initial contribution rates

To assess the impact the first Quick Enrollment implementation had on the initial contribution rate choices of new hires, we examine Figure 3, which shows the distribution of total (before-tax plus after-tax) contribution rates among new employees 30 days after hire.[12] Non-participants, who constitute the vast majority of the sample, are coded as having a contribution rate of zero and included in the denominator used to calculate frequencies, but are not shown in the graph in order to make it easier to see the differences among participants with positive contribution rates.

The modal contribution rate prior to Quick Enrollment (the 2002 and 2003 hire cohorts) was 6%, which was the match threshold for many Company A employees. Among the 2004 and 2005 hire cohorts, whose Quick Enrollment forms featured a 2% contribution rate pre-select, the fraction of employees contributing 2% increased 21-fold from 0.5% to 10.1%. Once the Quick Enrollment contribution rate pre-select increased to 4%, the fraction of employees contributing 2% fell back to 0.8%, and the fraction contributing 4% rose 12-fold from 0.8% to 9.6%. The increases in the fraction of employees at the Quick Enrollment pre-selects are significant at the 1% level.[13] We find no evidence that Quick Enrollment moved people away from other positive savings rates; the increase in employees contributing at the pre-selected contribution rate one month after hire is close to the one-month enrollment increase in Figure 2. Consistent with the longer-run enrollment trajectories discussed earlier, this suggests that Quick Enrollment does not distort the choices of employees who would have promptly enrolled in the savings plan in the absence of Quick Enrollment; rather, Quick Enrollment accelerates the participation of employees who otherwise would not have enrolled for a long time.[14]

Unlike the first Quick Enrollment implementation, the second Quick Enrollment implementation featured only an asset allocation pre-select, and no contribution rate pre-select.

[12] Because we only observe contribution rates at month-ends, we use the first recorded contribution rate for employees who enrolled within 30 days of hire, and assign a zero contribution rate to employees who enrolled later. If we instead look at contribution rates in effect at longer delays after hire, or just at before-tax contribution rates, we continue to see a disproportionate number of employees choosing the Quick Enrollment pre-selects among the 2004 to 2006 cohorts.

[13] To test the significance of the increase at the 2% contribution rate, we use the sample in Figure 3 to run a linear probability regression of having a 2% total contribution rate on a dummy variable for being in the 2004 or 2005 Quick Enrollment hire cohorts. We run an analogous regression to test the significance of the increase at the 4% contribution rate in the 2006 Quick Enrollment hire cohorts.

[14] In contrast, Madrian and Shea (2001) find that at three to fifteen months of tenure, 19% of participants at the default contribution rate under automatic enrollment are employees who would have contributed at a different (usually higher) positive contribution rate in the absence of automatic enrollment.

The result is that no single contribution rate became much more popular under the second Quick Enrollment implementation. Figure 4 is a histogram of total (before-tax plus after-tax) contribution rates in effect at two dates—May 31, 2004 (shortly before the second Quick Enrollment implementation began) and October 31, 2004 (shortly after the second Quick Enrollment implementation concluded). The sample is the same as in Figure 1: all employees who were continuously employed at Company A and eligible to participate in the plan from January 1, 2002 through December 31, 2005. We see that the second Quick Enrollment implementation increased the fraction of employees at each total contribution rate between 1% and 6%, but caused little increase at higher contribution rates.

4.4. Impact of Quick Enrollment on asset allocation

The Quick Enrollment asset allocation pre-select had a strong influence on enrollees' asset allocations. Only 0.4% of the February to June 2002 and 2003 hire cohorts who enrolled within thirty days of hire split their contribution flows[15] evenly between the money market fund and the balanced fund while not trading (i.e., making transfers between investment funds in the savings plan) during their first calendar year of enrollment.[16] In contrast, 54% of the 2004 and 2005 cohort members who enrolled within thirty days of hire maintained this asset allocation, which was their Quick Enrollment pre-select, for their contribution flows while not making any trades during their first calendar year of enrollment. Seventy-eight percent of the 2006 cohort members who enrolled within thirty days of hire made all of their 2006 contributions to a target date retirement fund, which was the Quick Enrollment pre-select they received, while not making any trades in 2006. Since the target date retirement funds were added to the investment menu concurrently with the pre-select change, we do not know how many of these employees would have allocated 100% of their contributions to a target date retirement fund if that had not been the pre-select.

We see similar results for the second Quick Enrollment implementation. Of the employees who joined the savings plan during the second Quick Enrollment rollout (from June

[15] We draw a distinction between the asset allocation for contribution flows and the asset allocation for balances. The former is the mix of assets in which incremental 401(k) contributions are initially invested. The latter is the mix of all accumulated assets currently held in the portfolio. We will focus on the former in this paper because it is not directly affected by capital gains.

[16] The first calendar year of enrollment encompasses the period between enrollment and December 31 of the enrollment year. The second calendar year of enrollment is the entire subsequent year from January 1 to December 31.

to October 2004) and who were not hired between May and October 2004 (and hence not exposed to Quick Enrollment in orientation shortly before or during the second rollout), 84% enrolled at the asset allocation pre-select of 50% in the money market fund and 50% in the balanced fund for their contribution flows during all of 2004 while not trading in 2004. None of the employees who enrolled between June and October of 2002 and were not hired between May and October 2002 chose that contribution flow allocation while not trading in 2002. (We do not consider the June to October 2003 enrollees in this comparison because the Quick Enrollment cards distributed at the October 2003 benefits fair may have influenced the choices of October 2003 enrollees.)

4.5. Contribution rate persistence under Quick Enrollment

Choi et al. (2002, 2004) have shown that automatic enrollment defaults are quite persistent; a substantial fraction of participants remain at the defaults for years after enrollment. We find that persistence at the contribution rate chosen under Quick Enrollment is also high.

Panel A of Table 3 shows the persistence of savings plan participation and the initially chosen contribution rate among new hires who enrolled in the savings plan within 30 days of hire ("early participators") at Company A. The first column shows the percent of all early participators in the combined 2002 and 2003 cohorts, which did not receive Quick Enrollment forms at new employee orientation, that had contributed a positive amount every pay period during the 12, 24, 36, and 48 months after enrollment. The second column shows the percent of early participators in the 2002 and 2003 cohorts that had never deviated from their initially chosen contribution rate at 12, 24, 36, and 48 months after enrollment. Analogous figures for early participators under Quick Enrollment are shown in the remaining columns, first for employees hired in 2004 and 2005, when the Quick Enrollment contribution rate pre-select was 2%, and then for employees hired in 2006, when the Quick Enrollment contribution rate pre-select increased to 4%. The sample in the Quick Enrollment columns is restricted to early participators who enrolled at the relevant Quick Enrollment contribution rate pre-select—those who are very likely to have used Quick Enrollment to initiate savings plan participation.[17]

[17] Our data do not indicate which employees actually used Quick Enrollment. We identify an employee as having used Quick Enrollment if the Quick Enrollment contribution rate pre-select is our first contribution rate observation for the employee. As shown in Figure 3, very few employees (less than 1%) in the standard enrollment cohorts enrolled at either of the Quick Enrollment contribution rate pre-selects (2% or 4% of pay). We could identify Quick

Savings plan participation is very persistent for early participators in all of the cohorts, both before and after Quick Enrollment: 95% continually contribute during the one year after enrollment, over 90% during the two years after enrollment, and 87% or more during the three and four years after enrollment. There is no meaningful difference between the participation persistence of early participators hired before versus after Quick Enrollment—akin to the minimal difference in savings plan attrition rates between employees hired before versus after automatic enrollment (Choi et al., 2002, 2004)—or between early participators in the Quick Enrollment cohorts with a 2% versus a 4% pre-selected contribution rate.

Persistence at initial contribution rates is also high, but weaker than the persistence of participation status. Two years after enrollment, over half of early participators in all cohorts were still at their initial contribution rate. Early participators who enrolled at the Quick Enrollment contribution rate pre-select exhibit less persistence at their initial contribution rate than early participators hired before Quick Enrollment. Two years after enrollment, 54% of the 2004-2005 early participators who started at the 2% pre-select and 55% of the 2006 early participators who started at the 4% pre-select were still contributing at their initial contribution rate. By contrast, 63% of the 2002-2003 pre-Quick Enrollment early participators remained at their initial contribution rate two years after enrollment, 8 to 9 percentage points more than the two Quick Enrollment early participator groups. Four years after enrollment, 37% of the 2004-2005 Quick Enrollment early participators persisted at their initial 2% contribution rate, compared to 48% of the 2002-2003 early participators who retained their initial contribution rate, a difference of 11 percentage points. The lower persistence of the Quick Enrollment contribution rate pre-selects may be due to the fact that all employees using Quick Enrollment in the 2004-2005 cohort and many of those using it in the 2006 cohort[18] were foregoing matching contributions if they remained at the Quick Enrollment contribution rate pre-select. Consistent

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Enrollment utilization by observing who enrolled at *both* the relevant contribution rate pre-select and the asset allocation pre-select. However, we only observe asset allocations at an annual frequency, while we observe contribution rates at a monthly frequency. Using annual asset allocations to identify Quick Enrollment utilization would exclude Quick Enrollees who changed their asset allocation before the end of their first calendar year of enrollment, which would cause us to infer that Quick Enrollees are more inertial than they really are.

[18] Recall that some participants' contributions are matched up to 4% of pay, while others are matched up to 6% of pay. With a Quick Enrollment contribution rate pre-select of 4%, participants with a 6% match threshold would be foregoing matching contributions if they stayed at the Quick Enrollment contribution rate pre-select, while those with a 4% match threshold would not. Our data do not identify which match threshold each employee had.

with this hypothesis, the modal contribution rate to which Quick Enrollment early participators moved is the 6% match threshold.

Panel B of Table 3 compares the contribution rate persistence of seasoned employees who enrolled two years prior to the second Quick Enrollment implementation at Company A to that of seasoned employees who enrolled during the second Quick Enrollment implementation and are likely to have used Quick Enrollment because their contribution flow during 2004 was split evenly between the money market fund and the balanced fund (the Quick Enrollment pre-select).[19] We exclude employees who were hired from May to October 2002 from the first group, and employees who were hired from May to October 2004 from the second group. Seasoned Quick Enrollment users are more inertial than seasoned pre-Quick Enrollment enrollees. At each horizon from one to four years, seasoned Quick Enrollment users are 4 to 6 percentage points more likely to have continuously participated in the plan than seasoned pre-Quick Enrollment enrollees. Seasoned Quick Enrollment enrollees are also 17 to 25 percentage points more likely to remain at their initial contribution rate. The second Quick Enrollment implementation may have attracted a particularly inertial population because it encouraged enrollment among employees who had not enrolled despite potentially long tenures at the company.

4.6. Asset allocation pre-select persistence under Quick Enrollment

In Table 4, we examine the persistence of the asset allocations enrollees initially selected for their contribution flows. Panel A of Table 4 shows the asset allocation persistence among new employees who enrolled in the savings plan within 30 days of hire; in Panel B, we examine the asset allocation persistence of seasoned employees who enrolled in the savings plan. Because our data include contribution rates at a monthly frequency, we were able to examine contribution rate persistence at specific months of tenure in Table 3. Asset allocations of contribution flows, however, are only available on an annual basis in the form of the total dollars contributed to each investment option during each calendar year. Therefore, we evaluate asset allocation persistence on a "calendar year of enrollment" basis.[20] This means that the contribution rate persistence

[19] For the second Quick Enrollment implementation, we rely on asset allocation to identify likely Quick Enrollment utilization. We cannot use the initial contribution rate to identify likely Quick Enrollees (as we did for the first Quick Enrollment implementation at new employee orientation) because this second implementation did not specify a single contribution rate pre-select, but allowed employees to choose any contribution rate in conjunction with the pre-selected asset allocation.

[20] The first calendar year of enrollment is the calendar year in which the employee enrolled in the savings plan.

values in Table 3 cannot be directly compared to the asset allocation persistence values in Table 4.

We classify an employee as being at her initial asset allocation if she has never traded in the savings plan and the allocation of her contribution flows in the current and preceding calendar years has never deviated from the allocation of her contribution flows during the calendar year in which she enrolled.[21] For the Quick Enrollment cohorts, an employee is classified as being at the pre-selected asset allocation if she has never traded and the allocation of her contribution flows during a calendar year has never to date deviated from the Quick Enrollment pre-select offered to her.[22]

The persistence of the initial asset allocation chosen by early participators in the standard enrollment cohorts is remarkably similar to the persistence of the asset allocation pre-select (50% money market fund and 50% balanced fund) among early participators in the 2004-2005 Quick Enrollment cohorts whose first contribution rate is the pre-select. During the fourth calendar year of enrollment, 56% of the standard enrollment early participators retained their initial allocation, while 59% of the 2004 Quick Enrollment early participators were still at their asset allocation pre-select. In contrast, the asset allocation of the 2006 Quick Enrollment early participators who enrolled at the pre-selected contribution rate—100% in an age-appropriate target date retirement fund—is considerably stickier, perhaps because target date retirement funds are marketed as customized solutions to the asset allocation problem and are thus viewed by employees as attractive investment vehicles. During their third calendar year of enrollment, 85% of the 2006 Quick Enrollment early participators were still at their asset allocation pre-select, versus only 67% of the 2004-2005 Quick Enrollment early participators who were still at their asset allocation pre-select and 64% of the 2002-2003 standard enrollment early participators who were still at their initial asset allocation.

Panel B of Table 4 compares the asset allocation persistence of employees who enrolled in the savings plan two years before the second Quick Enrollment rollout with that of employees who enrolled during the second Quick Enrollment rollout (June to October 2004) and maintained

[21] There is one equity fund that was discontinued and had its balances automatically transferred to a replacement equity fund in 2003. We treat contributions to the new fund as equivalent to contributions to the old fund and ignore trades from the old fund to the new fund for the purposes of calculating persistence.

[22] These definitions allow an employee who has stopped contributing to the savings plan to still be counted as persisting at her initial asset allocation or her asset allocation pre-select, even if she made no contributions for an entire calendar year.

the asset allocation pre-select for all of their 2004 contribution flows. We again exclude May to October 2002 hires from the first group and May to October 2004 hires from the second group. We find that those who enrolled during the second Quick Enrollment implementation exhibit considerably more asset allocation persistence than those who enrolled two years prior, consistent with the inertia these groups displayed relative to each other in the contribution rate domain. During their fourth calendar year of enrollment, 86% of the second Quick Enrollment sample were still at the asset allocation pre-select for their contribution flows and had never traded, in contrast to the 63% of the standard enrollment sample who were still at their initial flow asset allocation and had never traded—a difference of 23 percentage points.

4.7. Effect of Quick Enrollment on average contribution rates

Figure 5 shows the cumulative impact of the two Quick Enrollment implementations on the average total contribution rate of all savings-plan-eligible employees at Company A. Non-participants are included in the average at a zero contribution rate. The average total contribution rate before the trial Quick Enrollment implementation in July 2003 was nearly constant at about 3.6% of pay. This average began rising after July 2003, and the rise accelerated during the second Quick Enrollment rollout from June to August 2004 before leveling out at about 4.2% of pay from October 2004 to December 2008. The 16% (0.6% of pay) difference between the end of June 2003 and the end of October 2004 is significant at the 1% level.

5. Impact of Quick Enrollment and Easy Escalation at Company B

5.1. Impact of Quick Enrollment on enrollment

As described in Section 2, Company B mailed Quick Enrollment cards to non-enrolled employees in late January 2003, January 2004, and February 2005. We compare the enrollment experience of employees who were not enrolled in the savings plan on February 1, 2003, which is just before the processing of the initial Quick Enrollment mailing at this firm, to three similarly defined cohorts before Quick Enrollment: employees who were not enrolled as of March 1, 2000[23], as of February 1, 2001, or as of February 1, 2002.[24] Table 5 shows some

[23] We use March 1, 2000 as the formation date for 2000 non-enrolled cohort rather than February 1, 2000 because there was an anomalous spike in enrollment in February 2000—five times the activity seen in surrounding months.
[24] Although our data's first cross-section is taken as of year-end 2002, we know each employee's original enrollment date. Therefore, we can construct enrollment paths before 2002.

summary statistics on these cohorts, each of which has over 2,000 employees in it. The Quick Enrollment cohort is somewhat older, more male, and longer-tenured than the previous cohorts.

Figure 6 shows the enrollment path of each cohort. Time on the *x*-axis is calculated relative to the baseline date on which each cohort of non-enrollees is defined. Each pre-2003 cohort's enrollment series is truncated after January 2003, when they would have first received Quick Enrollment. For the 2003 cohort, Quick Enrollment forms were first processed during month 1 (February 2003); the final processing of forms from the 2003 mailing took place in month 4 (May 2003). Forms from the 2004 Quick Enrollment mailing were largely processed in month 13 (February 2004). Those from the 2005 mailing were largely processed in month 26 (March 2005).

The 2000-2002 non-enrolled cohorts (the thin gray, thin black, and dotted black lines) all experienced similar slow and steady enrollment increases over time. On average across cohorts, only 4% were enrolled 4 months after baseline, 11% at 13 months, and 20% at 26 months. In contrast, the enrollment rate of employees who were not participating at the time of the first Quick Enrollment mailing (the thick black line) increased discretely by 12 percentage points between months 0 and 1, and again by 3 percentage points between months 3 and 4, which are exactly when the Quick Enrollment forms were processed. We see another sharp enrollment jump of 10 percentage points between months 12 and 13, and a 5 percentage point jump between months 25 and 26, coinciding with the 2004 and 2005 Quick Enrollment mailings. The cumulative impact of the three Quick Enrollment mailings is large: at 26 months, the 41% enrollment rate of the 2003 Quick Enrollment cohort is more than double the 20% enrollment rate of the 2000 cohort. Calculating the causal effect of each Quick Enrollment mailing as the difference in enrollment growth between cohorts with versus without Quick Enrollment during the months corresponding to form processing windows, each mailing on average converted about 10% of previously non-enrolled recipients into savings plan participants. Controlling for age, gender, and log tenure yields Quick Enrollment effects on total enrollment percentage of 12%, 20%, and 22% at months 4, 13, and 26, respectively, all significant at the 1% level (not shown in tables).[25]

[25] We cluster standard errors at the employee level to correct for the fact that the same employee can appear multiple times in the regression at different tenure levels.

5.2. Impact of Easy Escalation on movements to the match threshold

Recall that participants contributing less than the 6% match threshold were mailed an Easy Escalation form in January 2004 and February 2005. Figure 7 shows the impact of the 2004 and 2005 Easy Escalation mailings on employee contribution rates. Each bar represents the fraction of employees with a positive contribution rate below 6% at the end of month $t - 1$ who changed their contribution rate to 6% during month t. Usually, only a small fraction of low contributors changed their contribution rate to 6%. The notable exceptions occurred in February 2004 and in February/March 2005, which coincide with the processing of the Easy Escalation forms. Fifteen percent of low contributors increased their contribution rate to 6% in February 2004, and 17% did so in February and March 2005 combined, compared to about 1% on average in the other months.[26] A time-series regression of the monthly fraction of low contributors who change their contribution rate to 6% on a dummy for the month being February 2004, February 2005, or March 2005 yields a coefficient of 9.8% that is significant at the 1% level. Because these three months correspond to two Easy Escalation mailings, the effect of each mailing is $9.8\% \times 3 \div 2 = 14.7\%$.

5.3. Persistence of the pre-selects

Panel A of Table 6 shows that once employees enroll in Company B's savings plan, the persistence of their participation is extremely high, and this persistence does not vary much by whether enrollment occurred through the standard channel or via Quick Enrollment. The sample in the last three columns is employees who enrolled in the plan at the Quick Enrollment contribution rate pre-select from February to May 2003 (the first Quick Enrollment processing period), February to March 2004 (the second Quick Enrollment processing period), or March to April 2005 (the third Quick Enrollment processing period). As a comparison, the sample in the first column is employees who enrolled from February to May 2002, one year prior to the first Quick Enrollment processing period. The numbers in the table cells are the fraction of the sample that is still contributing to the savings plan at various times since enrollment. Across all the columns, no more than 6% of participants stopped contributing to the savings plan within one

[26] In untabulated analysis, we find that males, those with lower tenure, and those with higher contribution rates were more likely to use Easy Escalation.

year of enrollment, and no more than 9% within three years of enrollment. These attrition rates are similar to those reported in Table 3 for Company A.

Because of the confounding impact of the Easy Escalation implementations, we do not calculate the persistence of the Quick Enrollment contribution rate pre-select at Company B. We do, however, examine the persistence of the asset allocation pre-select in Panel B of Table 6.[27] The sample in each column is the same as in Panel A. In the first column, an employee is counted as persisting at her initial asset allocation if she has never reallocated assets in the savings plan and the allocation of her contribution flows during the current and preceding calendar years has never deviated from the allocation of her contribution flows during her first calendar year of participation. In the last three columns, an employee is classified as being at the pre-selected asset allocation if she has never reallocated assets in the savings plan and the allocation of her contribution flows during the current and preceding calendar years has never deviated from the Quick Enrollment pre-select offered to her.

Among employees who enrolled in the savings plan from February to May 2003 or February to March 2004 at the Quick Enrollment contribution rate pre-select, about 80% remained at the asset allocation pre-select through their second calendar year of enrollment, 70% or more through their third calendar year, and 64% through their fourth calendar year. Persistence is noticeably higher in the March to April 2005 enrollment cohort, perhaps because the asset allocation pre-select was changed to a lifestyle fund instead of a money market fund; 93% remained at their pre-select through their second calendar year of enrollment. All Quick Enrollment groups exhibit higher persistence than those who enrolled via standard enrollment, as was the case for Company A's second Quick Enrollment implementation that targeted seasoned non-enrolled employees. Among the February to May 2002 standard enrollment cohort, only 63% retained their initial asset allocation through their second calendar year of enrollment, 53% through their third calendar year, and 46% through their fourth calendar year.

5.4. Impact of Quick Enrollment and Easy Escalation on the average contribution rate

Figure 8 shows the average before-tax plus after-tax contribution rate at Company B over time among employees who were continuously employed and eligible for the savings plan from

[27] Three funds were discontinued and had their balances automatically transferred to three replacement funds in 2003. We treat contributions to the new funds as equivalent to contributions to the old funds and ignore trades from the old funds to the new funds for the purposes of calculating persistence.

August 1, 2002 to December 31, 2006. Unlike in Figure 5, we use a balanced panel to construct the average contribution rate because new hires at Company B after February 2005 were not exposed to Quick Enrollment and Easy Escalation.

Prior to February 2003, the average total contribution rate was fairly steady at about 6.4% of pay. This average rose a little in February 2003, when the first Quick Enrollment mailing was processed, and continued to rise through March 2005, when the last Quick Enrollment and Easy Escalation forms were processed.[28] From March 2005 to December 2006, the average contribution rate held steady at about 6.9%, a 0.5 percentage point (8%) increase relative to the pre-February 2003 period. The difference between the average at the end of January 2003 and the end of March 2005 is significant at the 1% level.

6. Conclusion

Madrian and Shea (2001), Iyengar, Huberman, and Jiang (2004), and Choi, Laibson, and Madrian (2009) have argued that the complexity of the retirement savings decision discourages employees from timely enrollment in employer-sponsored savings plans, even when individuals would prefer participation to non-participation. Quick Enrollment is a low-cost intervention that reduces this complexity by allowing employees to enroll at a contribution rate and asset allocation pre-selected by the employer. We find that Quick Enrollment increased savings plan enrollment by 10 to 20 percentage points at two companies relative to a standard enrollment mechanism in which employees must actively select both a contribution rate and an asset allocation. As is the case with automatic enrollment, we find that the participation gains generated by Quick Enrollment do not subsequently reverse, and employees using Quick Enrollment often stay for years at the pre-selected contribution rate and asset allocation offered to them. We find that a similar mechanism, Easy Escalation, can also be used to increase the contribution rates of already-participating employees, causing roughly 15% of low contributors to increase their contribution rate to the match threshold each time they receive an Easy Escalation form.

[28] Despite the large number of Quick Enrollment and Easy Escalation forms processed in March 2005, the average total contribution rate does not rise by much because a large number of employees who had previously been contributing more than 10% of their income—and hence did not receive Quick Enrollment and Easy Escalation—decreased their contribution rates to 10% in March 2005.

Although the Quick Enrollment and Easy Escalation interventions that we have studied in this paper were applied to employer-sponsored savings plan enrollment, there are many other decision domains where simplification could be fruitfully employed to help overcome individuals' tendency to procrastinate. Simplified menus could also complement an active decision approach to decision-making (Carroll et al., 2009) by reducing the costs of taking action when a prompt choice is mandatory.

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Table 1. Timeline of Quick Enrollment and Easy Escalation implementations

Panel A: Company A	
July 2003	Quick Enrollment cards adopted on a trial basis at new employee orientation
October to November 2003	Quick Enrollment cards distributed at annual benefits fair
December 2003	Quick Enrollment trial ends
February 2004	Quick Enrollment cards adopted permanently for new employee orientation
Mid-June 2004 to mid-October 2004	Seasoned employees exposed to Web-based Quick Enrollment in conjunction with adoption of new Web-based benefits management system
March 2006	Quick Enrollment's pre-selected contribution rate and asset allocation for new hires changed
Panel B: Company B	
January 2003	First Quick Enrollment mailing sent to all unenrolled employees
January 2004	Second Quick Enrollment mailing sent to all unenrolled employees. First Easy Escalation mailing sent to all 401(k) participants with before-tax + after-tax contribution rate < 6%
February 2005	Third Quick Enrollment mailing with new asset allocation pre-select sent to all unenrolled employees. Second Easy Escalation mailing sent to all 401(k) participants with before-tax + after-tax contribution rate < 6%

Table 2. Employee characteristics by hire cohort, Company A

	Feb-Jun 2002 hires	Feb-Jun 2003 hires	Feb-Jun 2004 hires	Feb-Jun 2005 hires	Mar-Jun 2006 hires
Average age (years)	33.5	34.1	34.2	33.6	33.6
Percent male	29.4	27.5	25.8	27.4	26.9
Avg. annual income	$23,706	$21,468	$24,017	$24,920	$29,020
Median annual income	$17,273	$16,890	$19,043	$19,755	$22,240
Number of employees	2,618	2,310	2,644	2,639	2,757

Note: Age is calculated as of the end of the calendar year of hire. Compensation is annualized pay during the calendar year of hire.

Table 3. Persistence of participation and contribution rates, Company A

Panel A: New hires who enrolled within 30 days of hire

	Standard enrollment (Feb-Jun, 2002-2003)		Quick Enrollment at 2% (Feb-Jun, 2004-2005)		Quick Enrollment at 4% (Mar-Jun, 2006)	
Time since enrollment	Contributing positive amount	At initial contribution rate	Contributing positive amount	At pre-selected contribution rate	Contributing positive amount	At pre-selected contribution rate
12 months	95%	74%	95%	69%	95%	78%
24 months	92%	63%	92%	54%	91%	55%
36 months	90%	55%	90%	41%	--	--
48 months	87%	48%	90%[a]	37%[a]	--	--
Sample size	223		362		186	

Panel B: Newly enrolling seasoned employees

	Standard enrollment (Jun-Oct, 2002)		Quick Enrollment (Jun-Oct, 2004)	
Time since enrollment	Contributing positive amount	At initial contribution rate	Contributing positive amount	At initial contribution rate
12 months	91%	73%	96%	90%
24 months	89%	56%	94%	81%
36 months	88%	49%	92%	73%
48 months	84%	44%	90%	63%
Sample size	601		2,402	

Note: In Panel A, the standard enrollment sample is employees with hire dates from February to June of 2002 or 2003 who enrolled within 30 days of hire. The Quick Enrollment samples are employees with hire dates from February to June of 2004 or 2005, or March to June of 2006, who enrolled within 30 days of hire and whose first recorded contribution rate is the Quick Enrollment pre-select. In Panel B, the standard enrollment sample is all employees who enrolled between June and October of 2002, excluding those hired from May to October of 2002. The Quick Enrollment sample is all employees who enrolled between June and October 2004 and whose contribution flow allocation for 2004 equals the Quick Enrollment pre-select, excluding those hired from May to October 2004. Sample sizes are reported as of 12 months after enrollment. Employees are dropped from the sample if they are no longer at the company at a given time since enrollment. The cells report the fraction of each column's sample that has always contributed a positive amount to the plan since enrollment, is still at its initial contribution rate, or is still at the pre-selected contribution rate.

[a] Computed using only the 2004 hires because we have no data beyond 2008.

Table 4. Persistence of asset allocations, Company A

Panel A: New hires who enrolled within 30 days of hire

Calendar year of enrollment	Standard enrollment (Feb-Jun, 2002-2003) % at initial allocation	Quick Enrollment at 2% (Feb-Jun, 2004-2005) % at pre-selected allocation	Quick Enrollment at 4% (Mar-Jun, 2006) % at pre-selected allocation
1st year	92%	83%	93%
2nd year	76%	73%	90%
3rd year	64%	67%	85%
4th year	56%	59%	--
Sample size	239	398	204

Panel B: Newly enrolling seasoned employees

Calendar year of enrollment	Standard enrollment (Jun-Oct, 2002) % at initial allocation	Quick Enrollment (Jun-Oct, 2004) % at pre-selected allocation
1st year	95%	100%
2nd year	77%	96%
3rd year	68%	90%
4th year	63%	86%
Sample size	653	2,787

Note: In Panel A, the standard enrollment sample is employees with hire dates from February to June of 2002 or 2003 who enrolled within 30 days of hire. The Quick Enrollment samples are employees with hire dates from February to June of 2004 or 2005, or March to June of 2006, who enrolled within 30 days of hire and whose first recorded contribution rate is the Quick Enrollment pre-select. In Panel B, the standard enrollment sample is all employees who enrolled between June and October of 2002, excluding May to October 2002 hires. The Quick Enrollment sample is all employees who enrolled between June and October 2004 and whose 2004 contribution flow allocation was equal to the Quick Enrollment pre-select, excluding May to October 2004 hires. Employees are dropped from the sample if they are no longer at the company at the end of a given calendar year since enrollment. In the standard enrollment samples, an employee is classified as being at her initial asset allocation if she has never traded in the savings plan and the allocation of her contribution flows during the current and preceding calendar years has never deviated from the allocation of her contribution flows during her first calendar year of participation. In the Quick Enrollment samples, an employee is classified as being at the pre-selected asset allocation if she has never traded in the plan and the allocation of her contribution flows during a calendar year has never to date deviated from the Quick Enrollment pre-select offered to her. Sample sizes are reported as of the first year.

Table 5. Non-enrolled employee characteristics, Company B.

	Mar 2000	Feb 2001	Feb 2002	Feb 2003
Average age (years)	35.3	35.3	36.3	37.2
Percent male	77.8	74.5	76.5	79.4
Tenure (years)	3.9	3.4	3.8	4.2
Number of employees	2,110	2,822	2,799	2,620

Note: Columns show statistics for employees who were eligible for the savings plan but not enrolled as of March 1 for 2000, and February 1 for 2001 to 2003. Later cohorts share some employees with earlier cohorts who had still not enrolled in the savings plan. Age and tenure are calculated as of each cohort definition date. In calculating percentage of males, employees with missing values were excluded from the sample.

Table 6. Persistence of participation and asset allocation, Company B

Panel A: Participation persistence				
Time since enrollment	Standard enrollment (Feb-May 2002)	Quick Enrollment (Feb-May 2003)	Quick Enrollment (Feb-Mar 2004)	Quick Enrollment (Mar-Apr 2005)
12 months	94%	97%	97%	99%
24 months	93%	95%	94%	--
36 months	92%	91%	--	--
Sample size	139	318	263	174
Panel B: Asset allocation persistence				
Calendar year of enrollment	Standard enrollment (Feb-May 2002) % at initial allocation	Quick Enrollment (Feb-May 2003) % at pre-selected allocation	Quick Enrollment (Feb-Mar 2004) % at pre-selected allocation	Quick Enrollment (Mar-Apr 2005) % at pre-selected allocation
1st year	95%	92%	91%	98%
2nd year	63%	79%	81%	93%
3rd year	53%	70%	74%	--
4th year	46%	64%	--	--
Sample size	140	326	271	184

Note: The standard enrollment sample is employees who enrolled between February and May of 2002. The Quick Enrollment samples are employees who enrolled between February and May of 2003, between February and March of 2004, or between March and April of 2005 and whose first contribution rate is the Quick Enrollment pre-select. The cells in Panel A show the percent of employees who have never had a zero contribution rate since enrollment. In Panel B, an employee is classified as being at her initial asset allocation if she has never reallocated assets in the savings plan and the allocation of her contribution flows during the current and preceding calendar years has never deviated from the allocation of her contribution flows during her first calendar year of enrollment. An employee is classified as being at the pre-selected asset allocation if she has never reallocated assets in the savings plan and the allocation of her contribution flows during the current and preceding calendar years has never deviated from the Quick Enrollment pre-select offered to her. Employees are dropped from the sample if they are no longer at the company at a given time since enrollment (Panel A) or at the end of a given calendar year since enrollment (Panel B). Sample sizes are reported as of 12 months.

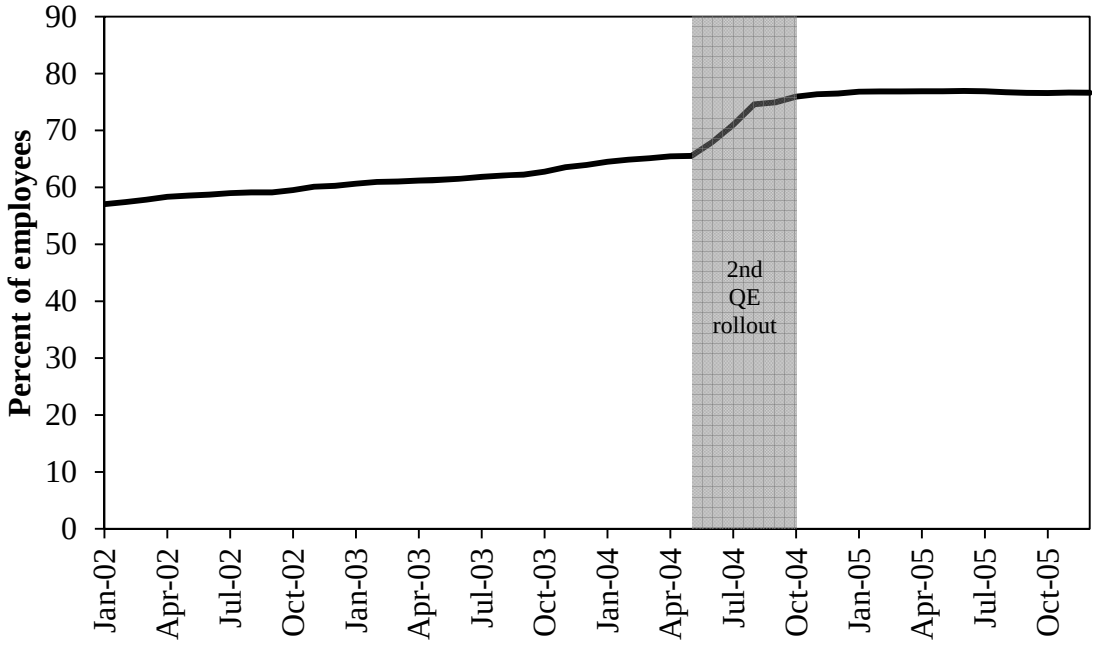

Figure 1. Savings plan participation rate by date, Company A seasoned employees. Participation in the savings plan is defined as having a positive before- or after-tax contribution rate. The sample is employees continuously employed by Company A and eligible for the savings plan from January 1, 2002 through December 31, 2005.

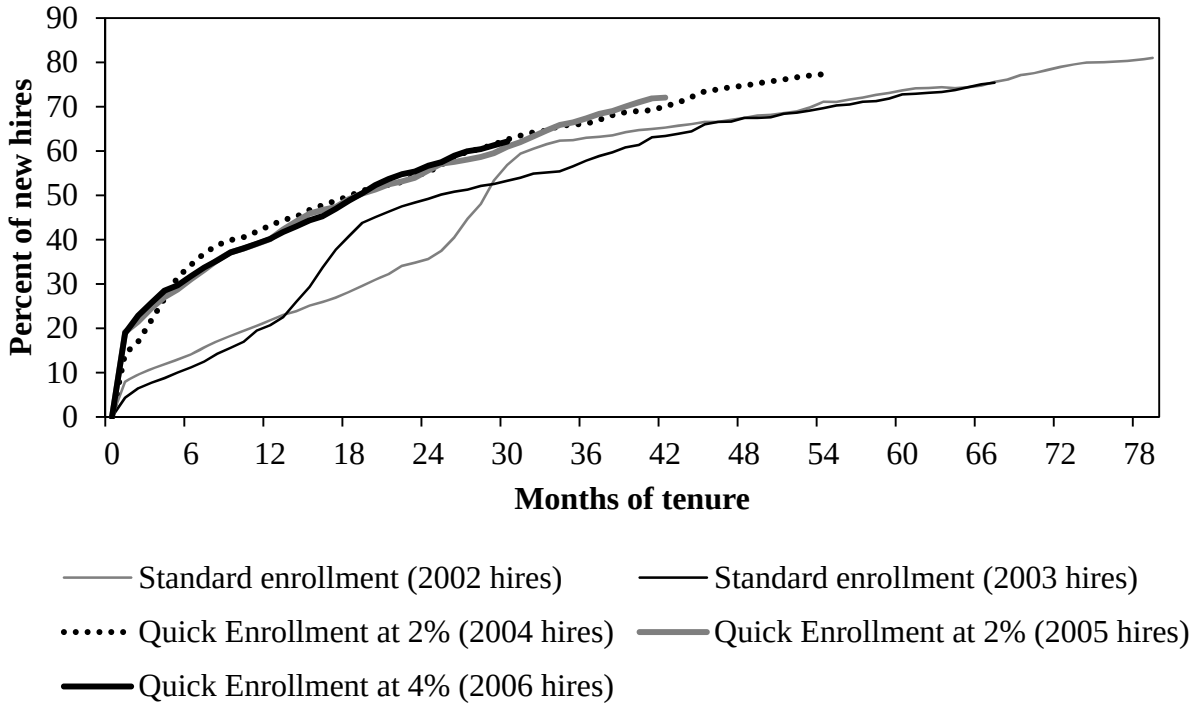

Figure 2. Savings plan enrollment rate by tenure, Company A new-hire cohorts. Each series represents employees hired between February and June of the year indicated, except for the 2006 series, which represent employees hired between March and June. Employees are dropped from the sample at a given tenure level if they are not eligible for the savings plan or have left the company.

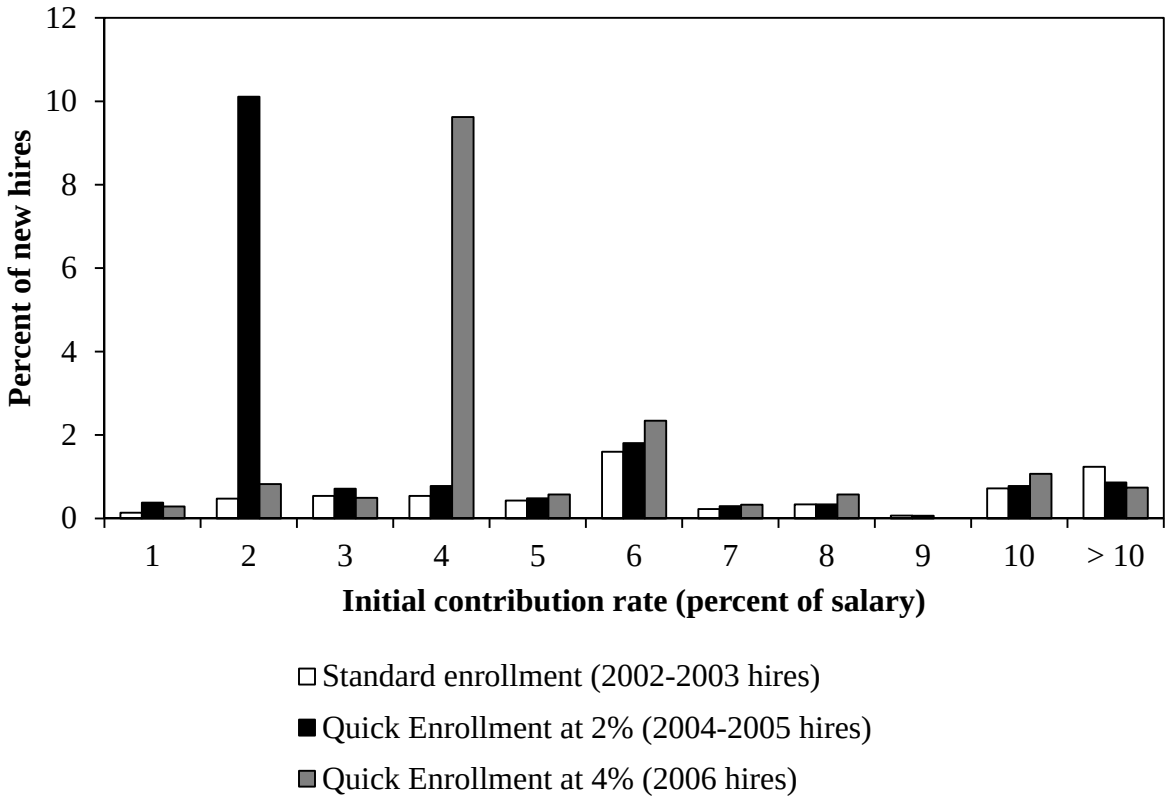

Figure 3. Histogram of before-tax plus after-tax contribution rates 30 days after hire, Company A new-hire cohorts. Each series represents employees hired between February and June of the year indicated, except for the 2006 series, which represent employees hired between March and June. Non-participants are coded as contributing 0% of their salary but are not shown in this graph. Employees not eligible to participate in the plan within thirty days of hire are excluded from the sample.

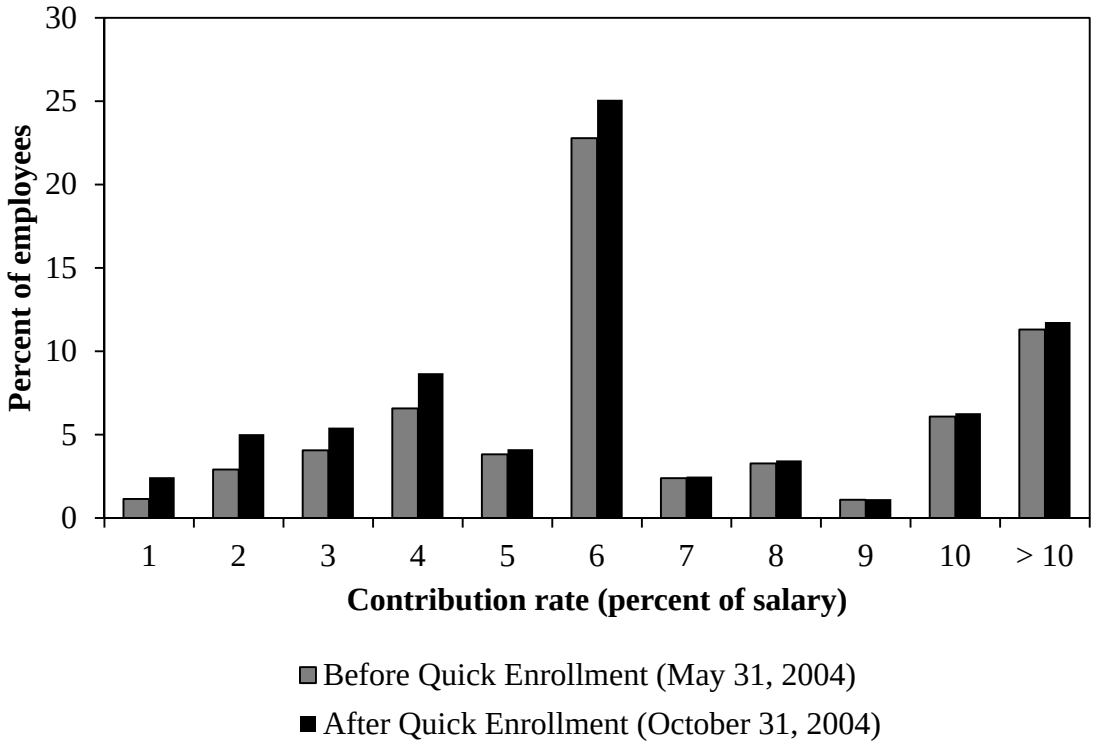

Figure 4. Histogram of before-tax plus after-tax contribution rates, seasoned Company A employees. Each series represents the total contribution rate elections in effect on May 31, 2004 or October 31, 2004. Non-participants are coded as contributing 0% of their salary but are not shown in this graph. The sample is employees continuously employed by Company A and eligible for the savings plan from January 1, 2002 through December 31, 2005.

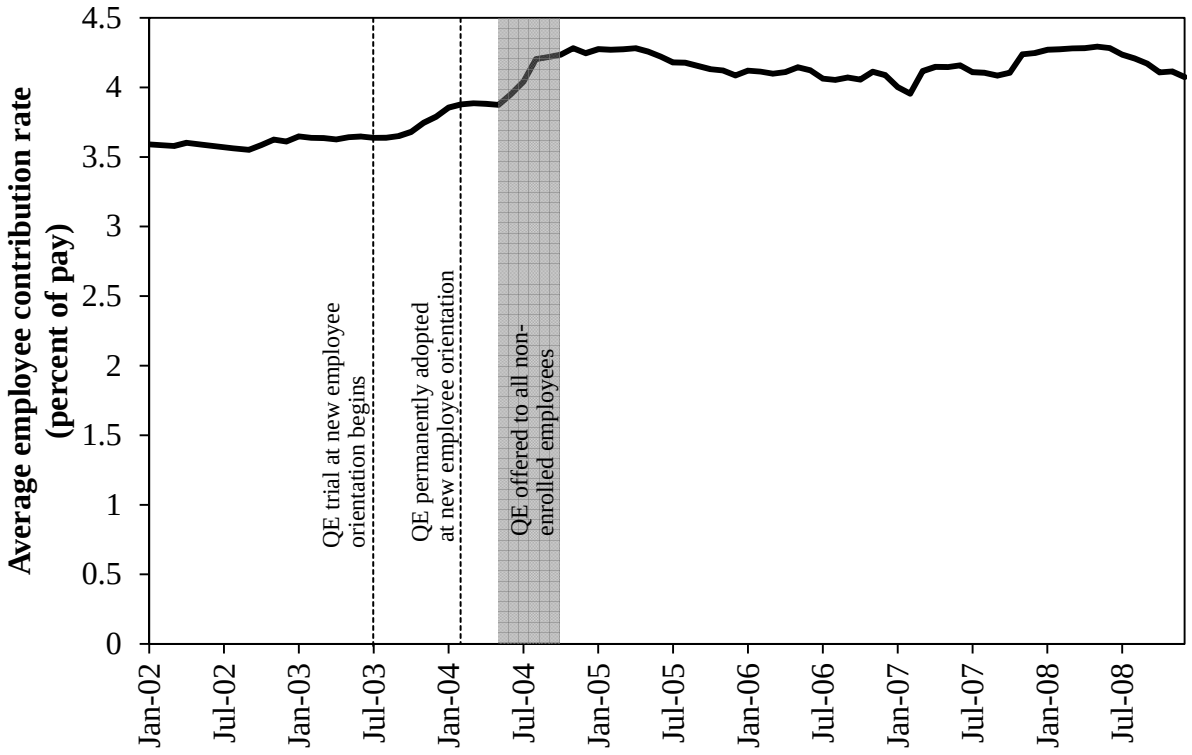

Figure 5. Average before-tax plus after-tax contribution rate by date, Company A. Non-participants are included in the average as contributing zero. The sample is employees who were actively employed by Company A and eligible to participate in the savings plan in a given month.

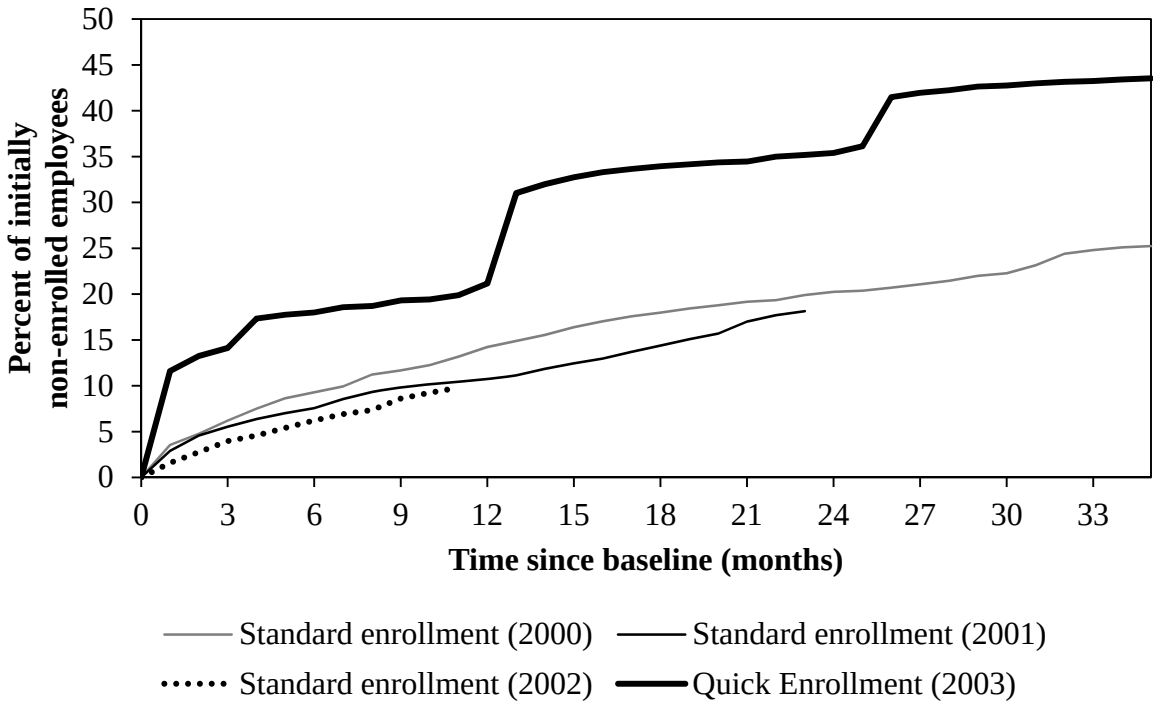

Figure 6. Savings plan enrollment rate among initially non-enrolled cohorts, Company B. Each cohort is the set of savings-plan-eligible employees who were not enrolled as of March 1, 2000 or February 1 of 2001, 2002, or 2003. Time since baseline is the number of months elapsed since March 1, 2000 or February 1 of 2001, 2002, or 2003. Employees are dropped from the sample at a given month if they have left the company.

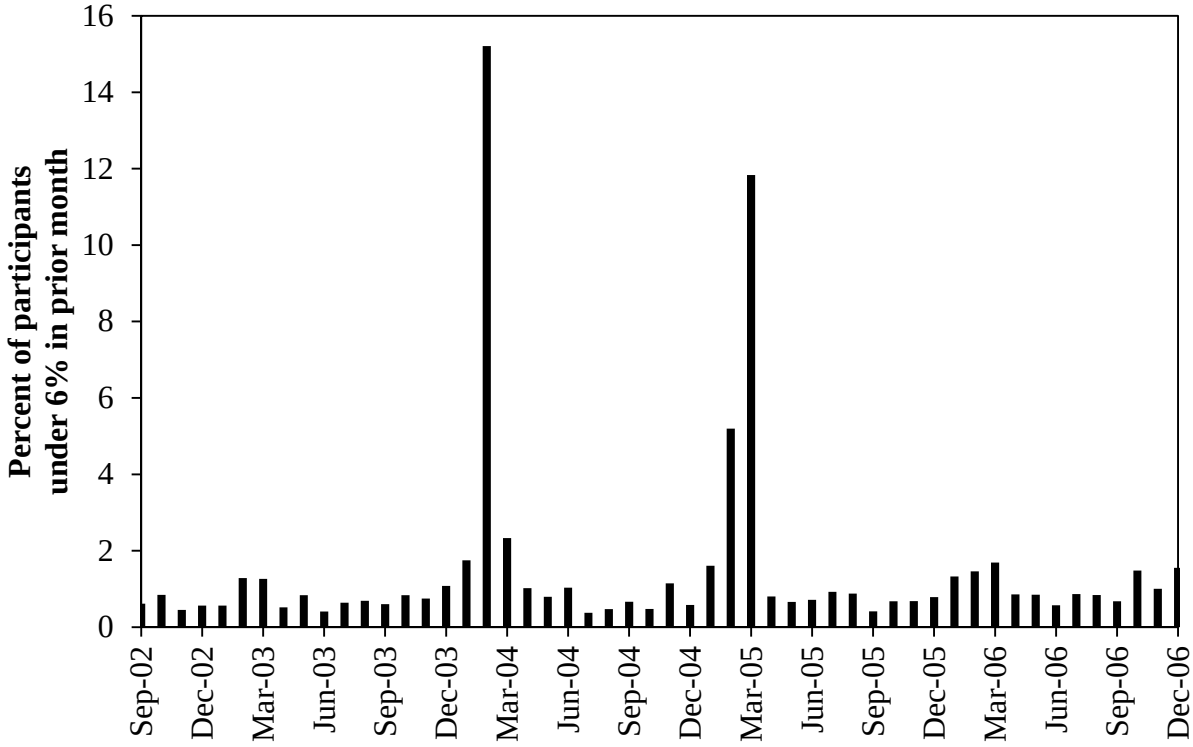

Figure 7. Percent of participants below a 6% total contribution rate at the end of the prior month who move to a 6% total contribution rate this month, Company B. The sample in each month is restricted to employees eligible for the savings plan in that month who contributed a positive amount less than 6% of pay to the savings plan at the end of the previous month. The average number of employees with a positive total contribution rate below 6% in the previous month across the above range is 2,025.

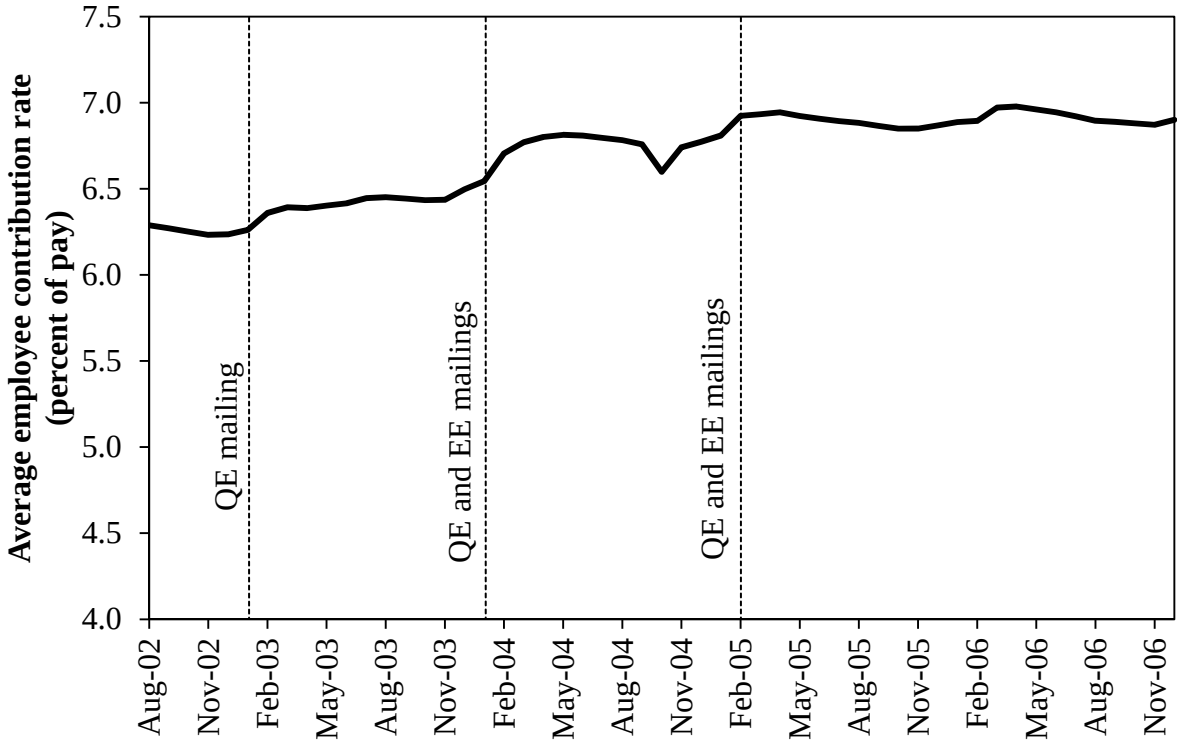

Figure 8. Average before-tax plus after-tax contribution rate, Company B. The sample is employees continuously employed and eligible for the savings plan from August 2002 to December 2006.